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| APPLICATION NO.                 | FILING DATE                              | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|---------------------------------|--|----------------------|-----------------------|------------------|
| 10/702,085                      | 11/06/2003                               | Jurgen Schulz-Harder | · A-8800              | 8224             |
|                                 | 7590 10/18/2007<br>/ASSON & GITLER, P.C. | EXAMINER             |                       |                  |
| Suite 522                       |  |                      | LEO, LEONARD R        |                  |
| 2361 Jefferson<br>Arlington, VA | Davis Highway<br>22202                   |                      | ART UNIT PAPER NUMBER |                  |
|                                 |  |                      | 3744                  |                  |
|                                 |  |                      |                       |                  |
|                                 |  |                      | . MAIL DATE           | DELIVERY MODE    |
|                                 |  |                      | 10/18/2007            | PAPER            |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|--|--|---|-----------------------|--|--|--|
|  | Application No.  | Applicant(s)  |                       |  |  |  |
|  | 10/702,085   | SCHULZ-HARDER, J  | SCHULZ-HARDER, JURGEN |  |  |  |
| Office Action Summary  | Examiner   | Art Unit  |                       |  |  |  |
| •  | Leonard R. Leo   | 3744  |                       |  |  |  |
| The MAILING DATE of this communication a<br>Period for Reply   | ppears on the cover sheet w  | ith the correspondence addre  | ss                    |  |  |  |
| A SHORTENED STATUTORY PERIOD FOR REP WHICHEVER IS LONGER, FROM THE MAILING  - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period for reply within the set or extended period for reply will, by stat Any reply received by the Office later than three months after the main earned patent term adjustment. See 37 CFR 1.704(b).  | DATE OF THIS COMMUNI 1.136(a). In no event, however, may a not will apply and will expire SIX (6) MOI ute, cause the application to become A | CATION. reply be timely filed  NTHS from the mailing date of this commi BANDONED (35 U.S.C. § 133). | ·                     |  |  |  |
| Status   |  |   |                       |  |  |  |
| 1) Responsive to communication(s) filed on 19  | July 2007.   |   |                       |  |  |  |
| ·=   | nis action is non-final.   |   |                       |  |  |  |
|  | ,  |   |                       |  |  |  |
| closed in accordance with the practice under   | r Εχ paπe Quayle, 1935 C.t   | J. 11, 453 O.G. 213.  | *                     |  |  |  |
| Disposition of Claims  |  |   |                       |  |  |  |
| <ul> <li>4)  Claim(s) 5.9-23 and 35-38 is/are pending in 4a) Of the above claim(s) 12-15 and 17-21 is</li> <li>5)  Claim(s) is/are allowed.</li> <li>6)  Claim(s) 5.9-11,16,22,23 and 35-38 is/are re</li> <li>7)  Claim(s) is/are objected to.</li> <li>8)  Claim(s) are subject to restriction and</li> </ul>  | /are withdrawn from consid   | eration.  |                       |  |  |  |
| Application Papers   |  |   | •                     |  |  |  |
| 9) The specification is objected to by the Examination The drawing(s) filed on is/are: a) and a Applicant may not request that any objection to the Replacement drawing sheet(s) including the correction.  11) The oath or declaration is objected to by the second | ccepted or b) objected to<br>ne drawing(s) be held in abeya<br>ection is required if the drawing   | nce. See 37 CFR 1.85(a).<br>g(s) is objected to. See 37 CFR 1                                       | • •                   |  |  |  |
| Priority under 35 U.S.C. § 119   |  |   |                       |  |  |  |
| 12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of:  1. Certified copies of the priority docume 2. Certified copies of the priority docume 3. Copies of the certified copies of the priority docume application from the International Bure * See the attached detailed Office action for a limit   | ents have been received. Ents have been received in Actionity documents have been eau (PCT Rule 17.2(a)).                                    | Application No<br>received in this National Sta   | age                   |  |  |  |
| Attachment(s)  ) Notice of References Cited (PTO-892)  Di Notice of Draftsperson's Patent Drawing Review (PTO-948)  Di Information Disclosure Statement(s) (PTO/SB/08)   | Paper No   | Summary (PTO-413)<br>s)/Mail Date<br>Informal Patent Application                                    |                       |  |  |  |

U.S. Patent and Trademark Office PTOL-326 (Rev. 08-06)

#### **DETAILED ACTION**

The amendment filed on July 19, 2007 has been entered. Claims 1-4, 6-8 and 24-34 are cancelled, claims 5, 9-23 and 35-38 are pending, and claims 12-15 and 17-23 remain withdrawn from further consideration.

### Claim Objections

Claim 35 is objected to because of the following informalities: the recitation of "und" in line 4 should read -- and --. Appropriate correction is required.

Claims 5 and 36 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Regarding claim 5, the recitation of "metal stays" does not further limit the DCB bonding in claim 1, which by definition forms copper stays.

Regarding claim 36, the recitation of "sintering" does not further limit the DCB bonding in claim 1, which by definition employ an intermediate material to bond the ceramic particles.

## Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 9-11, 22-23 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemuth et al.

Application/Control Number: 10/702,085

Art Unit: 3744

Lindemuth et al discloses a copper heat pipe comprising a top wall 17 and a bottom wall 15 forming a cavity containing posts 24 and porous structure 9 composed of copper-silicon-carbide (column 5, lines 1-3), i.e. ceramic bonded with copper, but does not disclose posts separate from the opposing walls.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ posts separate from the opposing walls, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. Nerwin v. Erlichman, 168 USPQ 177, 179.

The recitation of "by means of DCB bonding" is considered to be a method limitation in an apparatus claim, which bears no patentable weight in this instance. See MPEP 2113.

Regarding claims 9-11, Figure 12 of Lindemuth et al discloses the porous structure 9 being a layer fully enclosing small diameter posts 24 on wall section 15.

Regarding claim 16, Lindemuth et al (column 4, lines 34-37) discloses the porous structure 9 is "at least formed on the bottom wall 15 and posts 24," which implies the top wall 17 may be formed with the porous structure 9.

#### Response to Arguments

The rejection of claims 5 and 22 under 35 U.S.C. 112, second paragraph, are withdrawn in view of the claim amendment.

The anticipatory rejections in view of Dussinger et al, Eastman and Lindemuth are withdrawn in view of the claim cancellations.

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

As evidenced by Koning et al, ceramic coated with copper can be bonded by a reflow operation. Thus, DCB is not the only method to bond "copper with ceramic without any further bonding material in between." Therefor, the Examiner's position with respect to product-by-process limitations is maintained.

No further comments are deemed necessary at this time.

#### Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Friday.

Art Unit: 3744

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834834. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ LEONARD R. LEO / PRIMARY EXAMINER ART UNIT 3744

October 15, 2007

Fig.3

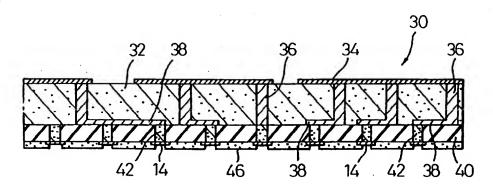


Fig.4

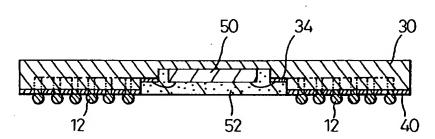


Fig.5

